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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,908	05/15/2001	Steven Michael Bellovin	2000-0284	1152

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Samuel H. Dworetsky
AT&T CORP.
P.O. Box 4110
Middletown, NJ 07748-4110

EXAMINER

HAYES, JOHN W

ART UNIT	PAPER NUMBER
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3621

DATE MAILED: 02/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/855,908

Applicant(s)

BELLOVIN ET AL.

Examiner

John W Hayes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet, 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet, 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code (See page 2, paragraph 0003). Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01. Appropriate correction is required.

Claim Objections

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

There are two claims numbered [c2]. The second occurrence of claim [c2] been renumbered [c17].

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-10 and 17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-10 and 17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

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- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts.

In the present case, claims 1-10 and 17 only recite an abstract idea. The recited steps of merely receiving information from a merchant, retrieving secret information and verifying the authorization number do not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. These steps only constitute an idea of how to verify information.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. An invention, which is eligible or patenting under 35 U.S.C. 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a "use, concrete and tangible result". The test for practical application as applied by the examiner involves the determination of the following factors"

- (a) "Useful" – The Supreme Court in *Diamond v. Diehr* requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will note that:
 - i. the utility need not be expressly recited in the claims, rather it may be inferred.
 - ii. if the utility is not asserted in the written description, then it must be well established.
- (b) "Tangible" – Applying *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a

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disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. 101. In *Warmerdam* the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

(c) "Concrete" – Another consideration is whether the invention produces a "concrete" result.

Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C. 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

In the present case, the claimed invention retrieves secret information (i.e., repeatable) used in verifying an authorization number (i.e., useful and tangible).

Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, claims 1-10 and 17, as a whole, are deemed to be directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-5, 8-11 and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Franklin et al, U.S. Patent No. 6,000,832.

As per **Claim 1**, Franklin et al disclose a method for facilitating credit card transactions, comprising the steps of:

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- receiving from a merchant, desiring to receive authorization for a transaction with a user having an account with a credit card issuer, a transaction authorization number and information regarding the transaction (Abstract; Col. 5, lines 59-65; Col. 11, lines 33-39);
- retrieving secret information shared with a transaction authorization number generator utilized by the user (Col. 5 line 65-Col. 6 line 5; Col. 12, lines 10-15); and
- verifying the temporary authorization number by using the shared secret information and information regarding the transaction (Col. 6, lines 1-12; Col. 12, lines 15-25).

As per **Claim 2**, Franklin et al further disclose wherein the secret information further comprises a credit card number associated with the user (Col. 12, lines 1-10 and 27-34).

As per **Claims 3-4**, Franklin et al further disclose wherein the temporary authorization number is a message authentication code or one-time password generated from the information regarding the transaction using the secret information as a cryptographic key (Col. 9 line 59-Col. 10 line 11; Col. 12, lines 10-26).

As per **Claims 5 and 11**, Franklin et al disclose a method for facilitating credit card transactions, comprising the steps of:

- receiving authentication information from a user having an account with a credit card issuer (Col. 9, lines 34-40); and
- generating a temporary authorization number for the user using secret information shared with a credit card issuer (Col. 9, lines 49-67) whereby the temporary authorization number may be utilized in a transaction (Col. 10, lines 1-11); and
- verified by the credit card issuer using the shared secret information and information regarding the transaction (Col. 12, lines 10-26).

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As per **Claims 8-9 and 14-15**, Franklin et al further disclose wherein the temporary authorization number is a message authentication code or one-time password generated from the information regarding the transaction using the secret information as a cryptographic key (Col. 9 line 59-Col. 10 line 11; Col. 12, lines 10-26).

As per **Claims 10 and 16**, Franklin et al further disclose wherein the temporary authorization number has a format similar to a credit card number (Col. 5, lines 5-11 and 42-50).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 17, 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franklin et al, U.S. Patent No. 6,000,832 in view of Walker et al, U.S. Patent No. 6,163,771.

As per **Claims 17, 7 and 13**, Franklin et al disclose retrieving a customer's private key and using the private key along with transaction specific data to compute a message authentication code (MAC) and compares this computed MAC with the one provided by the merchant to verify a match (Col. 12, lines 10-26), however, fail to explicitly disclose wherein the secret information is utilized as a cryptographic key to decrypt information regarding the transaction encoded in the temporary authorization number. Walker et al disclose a method for secure transactions using credit cards and further teach wherein a credit card issuer receives information from a merchant that includes single use financial account number which was generated by encrypting information related to the customer by using secret information such as a customer private key (Col. 8, lines 9-36). Walker et al further disclose that the credit card issuer retrieves the secret information (customer private key) and utilized as a cryptographic key to decrypt information

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regarding the transaction encoded in the temporary single use financial account number (Col. 8, lines 55-65). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Franklin et al decrypt information regarding the transaction encoded in the transaction number of Franklin et al and compare the result with stored information as taught by Walker et al rather than computing a MAC and comparing the MACs. One would have been motivated to use the method of Walker et al as an alternative to the method taught by Franklin et al depending upon the particular application since both methods provide an equally secure credit card transaction using a private key associated with the customer.

9. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franklin et al, U.S. Patent No. 6,000,832.

As per **Claims 6 and 12**, Franklin et al further disclose wherein the secret information further comprises a credit card number associated with the user (Col. 2, lines 25-37) and further discloses the use of a password as the authentication information (Col. 2, lines 21-27), however, fails to explicitly disclose that the user's credit card number is used as the authentication information. Examiner takes Official Notice that using a user's credit card number, a PIN, a passphrase or any other authentication information to identify the user was well known at the time of applicant's invention. Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Franklin et al and utilize any information associated with the user such as a credit card number in order to authenticate the user and obtain access.

Conclusion

10. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in

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preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Demoff et al disclose a system for providing temporary credit authorizations and teach a randomly generated credit transaction number and made valid only for the requested transaction
- Vizcaino discloses an apparatus for securing credit card transactions and teaches producing a verification number which is based on a transaction sequence number and an encryption algorithm stored in the device as well as a corresponding decryption algorithm stored in a verification computer. The verification computer matches a computed transaction sequence number to a stored transaction sequence number to verify the transaction.
- Stambler discloses securing information relevant to a transaction using a variable authentication number
- Flitcroft et al disclose a credit card system and teach providing limited use credit card numbers for single or limited use transactions
- Canfield discloses a method for verifying credit card transactions and teaches the use of a verification code number calculated by the customer and verified by the issuer
- Penzias discloses a system for fraud protection for credit card transactions and teaches that the customer may identify himself by supplying a card number.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hayes whose telephone number is (703)306-5447. The examiner can normally be reached Monday through Friday from 5:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Trammell, can be reached on (703) 305-9768.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Any response to this action should be mailed to:

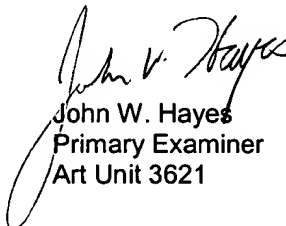
***Commissioner of Patents and Trademarks
Washington D.C. 20231***

or faxed to:

(703) 872-9306 [Official communications; including
After Final communications labeled
"Box AF"]

(703) 746-5531 [Informal/Draft communications, labeled
"PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington,
VA, 7th floor receptionist.


John W. Hayes
Primary Examiner
Art Unit 3621

January 29, 2004